AIR QUALITY PERMIT

Issued To: Montgomery Great Falls Energy Partners LP
403 Corporate Woods
Magnolia, Texas 77354

Permit: #3154-05
Administrative Amendment (AA)
Request Received: 03/28/07
Department Decision on AA: 04/24/07
Permit Final: 05/10/07
AFS #: 013-0033

An air quality permit, with conditions, is hereby granted to Montgomery Great Falls Energy Partners LP (Montgomery), pursuant to Sections 75-2-204 and 211 of the Montana Code Annotated (MCA), as amended, and Administrative Rules of Montana (ARM) 17.8.740, *et seq*., as amended, for the following:

SECTION I: Permitted Facilities

A. Plant Location

Montgomery proposed to construct and operate a 262-megawatt (MW) natural gas-fired electrical power generation facility, to be located approximately 2 miles north of Great Falls, Montana, and east of U.S. Highway 87. The legal description of the site location is Section 30, Township 21 North, Range 4 East, in Cascade County, Montana.

B. Current Permit Action

The Department of Environmental Quality (Department) received a letter on March 28, 2007, regarding the transfer of ownership of Montana Megawatts I, LLC (MMI) to Montgomery. The current permit action is an administrative amendment to reflect the change in ownership.

SECTION II: Conditions and Limitations – Simple Cycle

A. Operational and Emission Limitations

1. Montgomery shall operate two simple cycle natural gas turbines for up to 2 years after initial start-up. The combined hours of operation for the two turbines shall not exceed 5000 hours facility-wide during any 12-month time period (ARM 17.8.749, ARM 17.8.752).

2. Each simple cycle turbine shall exhaust into one of two stacks that are at least 92-feet tall (ARM 17.8.749).

3. Montgomery shall operate and maintain an integral dry low Nitrogen Oxide (NO_x) burner on each of the 80-MW turbines (ARM 17.8.749, ARM 17.8.752).

4. Emissions from each of the two simple cycle 80-MW natural gas powered turbines shall not exceed the following limits:

NOx		
NOx-	4-hour rolling average (ARM 17.8.749)	39.3 lb/hr
NOx-	1-hour limit, excluding startup (ARM 17.8.752)	34.9 lb/hr
Carbon Monoxide (CO)		
CO-	30-day rolling average (ARM 17.8.749)	34.8 lb/hr
CO-	1-hour limit, excluding startup (ARM 17.8.752)	21.3 lb/hr
Volatile Organic Compounds (VOC)		
VOC-	30-day rolling average (ARM 17.8.749)	8.1 lb/hr
VOC-	1-hour limit (ARM 17.8.752)	9.5 lb/hr

5. Montgomery shall limit the hours of operation of the 14.2 gallon per hour (1.9 million British thermal units per hour (MMBTU/hr)) diesel-fired emergency water pump to no more than 500 hours per rolling 12-month period (ARM 17.8.749).

6. Montgomery shall limit the hours of operation, the capacity, and/or the fuel consumption such that the sum of the NO_x emissions from the facility is less than 100 tons per rolling 12-month time period. Any calculations used to establish NO_x emissions shall be approved by the Department and shall be based on the NO_x data from the continuous emission monitor system (CEMS) for each turbine and the hours of operation for each piece of equipment (ARM 17.8.749 and ARM 17.8.1204).

7. Montgomery shall limit the hours of operation, the capacity, and/or the fuel consumption such that the sum of the CO emissions from the facility is less than 100 tons per rolling 12-month time period. Any calculations used to establish CO emissions shall be approved by the Department and shall be based on the average hourly temperature from the National Weather Service office in Great Falls, the average hourly load for each turbine, and the hours of operation for each piece of equipment (ARM 17.8.749 and ARM 17.8.1204).

8. Montgomery shall only combust pipeline quality natural gas in the combustion turbines. (ARM 17.8.749, ARM 17.8.752 and 40 CFR 60 Subpart KKKK).

9. Montgomery shall operate and maintain the turbines, monitoring equipment, and ancillary equipment in a manner consistent with good air pollution control practices for minimizing emissions at all times (ARM 17.8.340 and 40 CFR 60 Subpart KKKK).

10. Montgomery shall not cause or authorize emissions to be discharged into the outdoor atmosphere from any sources installed after November 23, 1968, that exhibit an opacity of 20% or greater averaged over 6 consecutive minutes (ARM 17.8.304).

11. Montgomery shall not cause or authorize the use of any street, road, or parking lot without taking reasonable precautions to control emissions of airborne particulate matter (ARM 17.8.308).

12. Montgomery shall treat all unpaved portions of the haul roads, access roads, parking lots, or general plant area with water and/or chemical dust suppressant as necessary to maintain compliance with the reasonable precautions limitation in Section II.A.11 (ARM 17.8.749).

13. Montgomery shall comply with all applicable standards and limitations, and the reporting, recordkeeping, and notification requirements contained in 40 CFR 60, Subpart KKKK (ARM 17.8.340 and 40 CFR 60, Subpart KKKK).

14. Montgomery shall comply with all applicable standards and limitations, and the reporting, recordkeeping, and notification requirements of the Acid Rain Program contained in 40 CFR 72-78 (40 CFR 72 through 40 CFR 78).

15. The requirements of Section II of this permit shall apply for a period of 2 years from initial startup of the simple cycle turbines, or until the Montgomery facility begins operating in a combined cycle mode, whichever comes first. Upon commencement of operation in the combined cycle mode, Montgomery shall comply with the conditions identified in Section III of this permit (ARM 17.8.749).

B. Testing Requirements

1. Montgomery shall test each of the two 80-MW simple cycle turbines to demonstrate compliance with the steady-state NO_x and CO emission limits contained in Section II.A.4. Testing shall be conducted concurrently for NO_x and CO, within 180 days of initial start-up of each of the simple cycle turbines, and shall conform with the requirements contained in 40 CFR 60 Subpart KKKK (ARM 17.8.105, 17.8.749, and 40 CFR 60 Subpart KKKK).

2. All compliance source tests shall conform to the requirements of the Montana Source Test Protocol and Procedures Manual (ARM 17.8.106).

3. The Department may require further testing (ARM 17.8.105).

C. Continuous Emissions Monitoring Systems

1. Montgomery shall install, operate, calibrate, and maintain CEMS as follows:

   a. Montgomery shall operate a CEMS for the measurement of NO_X on each simple cycle stack, and use the data to monitor compliance with the NO_x emission limits contained in Section II.A.4 and Section II.A.6 (ARM 17.8.105, 17.8.749, 40 CFR 60 Subpart KKKK, and 40 CFR 72-78).

   b. A CEMS for the measurement of oxygen (O_2) or carbon dioxide (CO_2) content shall be operated on each simple cycle stack (ARM 17.8.105, ARM 17.8.749, and 40 CFR 60 Subpart KKKK).

2. All continuous monitors required by this permit and by 40 CFR Part 60 shall be operated, excess emissions reported as per Attachment #2 of this permit, and performance tests conducted in accordance with the requirements of 40 CFR Part 60, Subpart A; 40 CFR Part 60, Appendix B (Performance Specifications #1, #2, and #3); 40 CFR Part 60, Subpart KKKK and 40 CFR Part 72-78, as applicable (ARM 17.8.749, 40 CFR 60, and 40 CFR 72-78).

3. Montgomery shall develop and keep on-site a quality assurance plan for all the CEMS (40 CFR Part 60, Subpart KKKK).

4. On-going quality assurance for the CEMS must conform to 40 CFR Part 60, Appendix F (ARM 17.8.749, 40 CFR Part 60 Appendix F).

5. Montgomery shall maintain a file of all measurements from the CEMS, and performance testing measurements: all CEMS performance evaluations; all CEMS or monitoring device calibration checks and audits; and adjustments and maintenance performed on these systems or devices, recorded in a permanent form suitable for inspection. The records shall be retained on site for at least 5 years following the date of such measurements and reports. Montgomery shall supply these records to the Department upon request (ARM 17.8.749).

D. Operational Reporting Requirements

1. Montgomery shall supply the Department with annual production information for all emission points, as required by the Department in the annual emission inventory request. The request will include, but is not limited to, all sources of emissions identified in the emission inventory contained in the permit analysis.

Production information shall be gathered on a calendar-year basis and submitted to the Department by the date required in the emission inventory request. Information shall be in the units required by the Department. This information may be used to calculate operating fees, based on actual emissions from the facility, and/or to verify compliance with permit limitations (ARM 17.8.505).

2. Montgomery shall document, by month, the hours of operation for each of the two simple cycle turbines. By the 25th day of each month, Montgomery shall total the hours of operation for each of the two simple cycle turbines, during the previous month. The monthly information will be used to verify compliance with the rolling 12-month limitation in Section II.A.1. The information for each of the previous months shall be submitted along with the annual emissions inventory (ARM 17.8.749).

3. Montgomery shall document the amount of NO_x emissions from each turbine at least once per hour. In addition, at least once per hour Montgomery shall calculate the previous 4-hour rolling average emission rate for each of the turbines, in conformance with the requirements contained in 40 CFR 60 Subpart KKKK. These emission rates will be used to verify compliance with the limitations in Section II.A.4. (ARM 17.8.749 and 40 CFR 60 Subpart KKKK).

4. Montgomery shall document, by month, the amount of NO_x emissions from the facility. By the 25th day of each month, Montgomery shall total the amount of NO_x emissions from the facility during the previous month. The monthly information will be used to verify compliance with the rolling 12-month limitation in Section II.A.6. The information for each of the previous months shall be submitted along with the annual emissions inventory (ARM 17.8.749).

5. Montgomery shall document, by month, the amount of CO emissions from the facility. By the 25th day of each month, Montgomery shall total the amount of CO emissions from the facility during the previous month. The monthly information will be used to verify compliance with the rolling 12-month limitation in Section II.A.7. The information for each of the previous months shall be submitted along with the annual emissions inventory (ARM 17.8.749).

6. Montgomery shall notify the Department of any construction or improvement project conducted pursuant to ARM 17.8.745, that would include a change in control equipment, stack height, stack diameter, stack flow, stack gas temperature, source location or fuel specifications, or would result in an increase in source capacity above its permitted operation or the addition of a new emission unit. The notice must be submitted to the Department, in writing, 10 days prior to start up or use of the proposed de minimis change, or as soon as reasonably practicable in the event of an unanticipated circumstance causing the de minimis change, and must include the information requested in ARM 17.8.745(1)(d) (ARM 17.8.745).

7. All records compiled in accordance with this permit must be maintained by Montgomery as a permanent business record for at least 5 years following the date of the measurement, must be available at the plant site for inspection by the Department, and must be submitted to the Department upon request (ARM 17.8.749).

8. Montgomery shall annually certify that its emissions are less than those that would require the facility to obtain an air quality operating permit as required by ARM 17.8.1204(3)(b). The annual certification shall comply with the certification requirements of ARM 17.8.1207. The annual certification shall be submitted along with the annual emissions inventory information (ARM 17.8.749 and ARM 17.8.1204).

E. Notification

Montgomery shall provide the Department with written notification of the following dates within the specified time periods (ARM 17.8.749):

1. Commencement of construction of the power generation facility within 30 days after commencement of construction;

2. Actual start-up date of each of the 80-MW turbines within 15 days after the actual start-up of the turbine.

SECTION III: Conditions and Limitations – Combined Cycle

A. Operational and Emission Limitations

1. Montgomery shall operate and maintain two combined cycle electric generating systems. Each system will consist of a natural gas-fired 80-MW turbine and a heat recovery steam generator (HRSG) with a 121.9 million British thermal unit per hour (MM Btu/hr) natural-gas fired duct burner (ARM 17.8.749).

2. Exhaust from each turbine/HRSG shall exhaust into one of two stacks that are at least 120-feet tall (ARM 17.8.749).

3. Montgomery shall operate and maintain the integral dry low NO_X burner on each of the 80-MW turbines (ARM 17.8.749 and ARM 17.8.752).

4. Montgomery shall operate and maintain a selective catalytic reduction (SCR) unit and a catalytic oxidizer on each combined cycle turbine/HRSG stack (ARM 17.8.749 and 17.8.752).

5. Montgomery shall operate and maintain the turbines, air pollution control equipment, and monitoring equipment in a manner consistent with good air pollution control practice for minimizing emissions at all times including during startup, shutdown, and malfunctions (40 CFR 60 Subpart KKKK).

6. Emissions from each of the combined turbine/HRSG stacks shall not exceed the following limits:

NO_X		
NO_X-	30-day rolling average (ARM 17.8.749)	8.9 lb/hr
NO_X-	1-hour limit, excluding startup (ARM 17.8.752)	9.7 lb/hr
CO		
CO-	30-day rolling average (ARM 17.8.749)	10.9 lb/hr
CO-	1-hour limit, excluding startup (ARM 17.8.752)	11.8 lb/hr
VOC		
VOC-	1-hour limit (ARM 17.8.752)	2.7 lb/hr
Particulate Matter less than or equal to 10 microns (PM_{10})		
PM_{10}-	Turbine only – 1-hour limit (ARM 17.8.752)	10.0 lb/hr
PM_{10}-	Turbine plus duct burner – 1-hour limit (ARM 17.8.752)	11.2 lb/hr
Sulfur Dioxide (SO_2)		
SO_2-	1-hour limit (ARM 17.8.752)	1.4 lb/hr

7. Montgomery shall limit the hours of operation, the capacity, and/or the fuel consumption of the equipment such that the sum of the NO_x emissions from the facility is less than 100 tons per rolling 12-month period. Any calculations used to establish NO_x emissions from the turbines shall be approved by the Department and shall be based on the NO_x data from the CEMS for each turbine unit (ARM 17.8.749 and ARM 17.8.1204).

8. Montgomery shall limit the hours of operation, the capacity, and/or the fuel consumption of the equipment such that total CO from the facility is less than 100 tons per rolling 12-month period. Any calculations used to establish CO emissions from the turbines shall be approved by the Department and shall be based on the CO data from the CEMS for each turbine (ARM 17.8.749 and ARM 17.8.1204).

9. Montgomery shall limit the hours of operation, the capacity, and/or the fuel consumption such that the total PM/PM_{10} from the facility is less than 100 tons per rolling 12-month period. Any calculations used to establish PM and PM_{10} emissions shall be approved by the Department (ARM 17.8.749 and ARM 17.8.1204).

10. Montgomery shall limit the combined hours of operation of the two duct burners to no more than 12,000 hours per rolling 12-month period (ARM 17.8.749 and ARM 17.8.1204).

11. Montgomery shall only combust pipeline quality natural gas in the turbines and duct burners (ARM 17.8.749 and 40 CFR 60 Subpart KKKK).

12. Montgomery shall limit the hours of operation of the 14.2 gallon per hour (1.9 MMBTU/hr) diesel-fired emergency water pump to no more than 500 hours per rolling 12-month period (ARM 17.8.749).

13. Montgomery is required to operate and maintain high efficiency drift eliminators on the cooling tower so drift emissions are limited to no more than 0.002% of circulating water flow (ARM 17.8.752).

14. Montgomery shall not cause or authorize emissions to be discharged into the outdoor atmosphere from any sources installed after November 23, 1968, that exhibit an opacity of 20% or greater averaged over 6 consecutive minutes (ARM 17.8.304).

15. Montgomery shall not cause or authorize the use of any street, road, or parking lot without taking reasonable precautions to control emissions of airborne particulate matter (ARM 17.8.308).

16. Montgomery shall treat all unpaved portions of the haul roads, access roads, parking lots, or general plant area with water and/or chemical dust suppressant as necessary to maintain compliance with the reasonable precautions limitation in Section III.A.15 (ARM 17.8.749).

17. Montgomery shall comply with all applicable standards and limitations, and the reporting, recordkeeping, and notification requirements contained in 40 CFR 60, Subpart KKKK (ARM 17.8.340 and 40 CFR 60, Subpart KKKK).

18. Montgomery shall comply with all applicable standards and limitations, and the reporting, recordkeeping, and notification requirements of the Acid Rain Program contained in 40 CFR 72-78 (40 CFR 72 through 40 CFR 78).

B. Testing Requirements

1. Montgomery shall test each of the two combined cycle turbine/HRSG units to demonstrate compliance with the NO_x and CO emission limits contained in Section III.A.6. Testing shall be conducted concurrently, for NO_x and CO, within 180 days of initial start-up of each combined cycle system, and shall conform with the requirements contained in 40 CFR 60 Subpart KKKK (ARM 17.8.105, ARM 17.8.749, 40 CFR 60.8 and 40 CFR 60 Subpart KKKK).

2. Montgomery shall test each of the two combined cycle turbine/HRSG units for PM_{10}, to demonstrate compliance with the PM_{10} emission limits contained in Section III.A.6. Testing shall be conducted within 180 days of initial start-up and continue on an every 5-year basis or another testing/monitoring schedule as may be approved by the Department (ARM 17.8.105 and 17.8.749).

3. All compliance source tests shall conform to the requirements of the Montana Source Test Protocol and Procedures Manual (ARM 17.8.106).

4. The Department may require further testing (ARM 17.8.105).

C. Continuous Emissions Monitoring Systems

1. Montgomery shall install, operate, calibrate, and maintain CEMS as follows:

   a. Montgomery shall operate a CEMS for the measurement of NO_X on each combined turbine/HRSG stack, and use the data to monitor compliance with the NO_x emission limits contained in Section III.A.6 and Section III.A.7 (ARM 17.8.105, 17.8.749, 40 CFR 60 Subpart KKKK, and 40 CFR 72-78).

   b. Montgomery shall operate a CEMS for the measurement of CO on each combined turbine/HRSG stack, and use the data to monitor compliance with the CO emission limits contained in Section III.A.6 and Section III.A.8 (ARM 17.8.105, 17.8.749).

   c. A CEMS for the measurement of oxygen (O_2) or carbon dioxide (CO_2) content shall be operated on each combined turbine/HRSG stack (ARM 17.8.105, ARM 17.8.749, and 40 CFR 60 Subpart KKKK).

2. All continuous monitors required by this permit and by 40 CFR Part 60 shall be operated, excess emissions reported as per Attachment #2 of this permit, and performance tests conducted in accordance with the requirements of 40 CFR Part 60, Subpart A; 40 CFR Part 60, Subpart KKKK; 40 CFR Part 60, Appendix B (Performance Specifications #1, #2, and #3); and 40 CFR Part 72-78, as applicable (ARM 17.8.749, 40 CFR 60, and 40 CFR 72-78).

3. Montgomery shall develop and keep on-site a quality assurance plan for all the CEMS (40 CFR Part 60, Subpart KKKK).

4. On-going quality assurance for the CEMS must conform to 40 CFR Part 60, Appendix F (ARM 17.8.749).

5. Montgomery shall maintain a file of all measurements from the CEMS, and performance testing measurements: all CEMS performance evaluations; all CEMS or monitoring device calibration checks and audits; and adjustments and maintenance performed on these systems or devices, recorded in a permanent form suitable for inspection. The records shall be retained on site for at least 5 years following the date of such measurements and reports. Montgomery shall supply these records to the Department upon request (ARM 17.8.749).

6. Montgomery shall develop a custom schedule for determination of total sulfur content by either using the fuel quality characteristics in a current, valid purchase contract, tariff sheet or transportation contract or conducting representative fuel sampling (40 CFR Part 60, Subpart KKKK).

D. Operational Reporting Requirements

1. Montgomery shall supply the Department with annual production information for all emission points, as required by the Department in the annual emission inventory request. The request will include, but is not limited to, all sources of emissions identified in the emission inventory contained in the permit analysis.

   Production information shall be gathered on a calendar-year basis and submitted to the Department by the date required in the emission inventory request. Information shall be in the units required by the Department. This information may be used to calculate operating fees, based on actual emissions from the facility, and/or to verify compliance with permit limitations (ARM 17.8.505).

2. Montgomery shall document, by month, the amount of NO_x emissions from the facility. By the 25th day of each month, Montgomery shall total the amount of NO_x emissions from the facility during the previous month. The monthly information will be used to verify compliance with the rolling 12-month limitation in Section III.A.7. The information for each of the previous months shall be submitted along with the annual emissions inventory (ARM 17.8.749).

3. Montgomery shall document, by month, the amount of CO emissions from the facility. By the 25th day of each month, Montgomery shall total the amount of CO emissions from the facility during the previous month. The monthly information will be used to verify compliance with the rolling 12-month limitation in Section III.A.8. The information for each of the previous months shall be submitted along with the annual emissions inventory (ARM 17.8.749).

4. Montgomery shall document, by month, the amount of PM and PM_{10} emissions from the facility. By the 25th day of each month, Montgomery shall total the amount of PM and PM_{10} emissions from the facility during the previous month. The monthly information will be used to verify compliance with the rolling 12-month limitation in Section III.A.9. The information for each of the previous months shall be submitted along with the annual emissions inventory (ARM 17.8.749).

5. Montgomery shall document, by month, the total hours of operation of the HRSG duct burners. By the 25th day of each month, Montgomery shall total the combined hours of operation of the HRSG duct burners from the facility during the previous month. The monthly information will be used to verify compliance with the rolling 12-month limitation in Section III.A.10. The information for each of the previous months shall be submitted along with the annual emissions inventory (ARM 17.8.749).

6. Montgomery shall document, by month, the total hours of operation of the emergency water pump. By the 25th day of each month, Montgomery shall total the combined hours of operation of the emergency water pump from the facility during the previous month. The monthly information will be used to verify compliance with the rolling 12-month limitation in Section III.A.12. The information for each of the previous months shall be submitted along with the annual emissions inventory (ARM 17.8.749).

7. Montgomery shall notify the Department of any construction or improvement project conducted pursuant to ARM 17.8.745, that would include a change in control equipment, stack height, stack diameter, stack flow, stack gas temperature, source location or fuel specifications, or would result in an increase in source capacity above its permitted operation or the addition of a new emission unit. The notice must be submitted to the Department, in writing, 10 days prior to start up or use of the proposed de minimis change, or as soon as reasonably practicable in the event of an unanticipated circumstance causing the de minimis change, and must include the information requested in ARM 17.8.745(1)(d) (ARM 17.8.745).

8. All records compiled in accordance with this permit must be maintained by Montgomery as a permanent business record for at least 5 years following the date of the measurement, must be available at the plant site for inspection by the Department, and must be submitted to the Department upon request (ARM 17.8.749).

9. Montgomery shall annually certify that its emissions are less than those that would require the facility to obtain an air quality operating permit as required by ARM 17.8.1204(3)(b). The annual certification shall comply with the certification requirements of ARM 17.8.1207. The annual certification shall be submitted along with the annual emissions inventory information (ARM 17.8.749 and ARM 17.8.1204).

E. Notification

Montgomery shall provide the Department with written notification of the following dates within the specified time periods (ARM 17.8.749 and 40 CFR 60 Subpart KKKK):

1. Commencement of construction of the HRSG units within 30 days after commencement of construction; and

2. Actual start-up date of each of the combined turbines/HRSG units within 15 days after the actual start-up of each turbine/HRSG unit.

SECTION IV: General Conditions

A. Inspection – Montgomery shall allow the Department's representatives access to the source at all reasonable times for the purpose of making inspections or surveys, collecting samples, obtaining data, auditing any monitoring equipment or observing any monitoring or testing, and otherwise conducting all necessary functions related to this permit.

B. Waiver – The permit and the terms, conditions, and matters stated herein shall be deemed accepted if Montgomery fails to appeal as indicated below.

C. Compliance with Statutes and Regulations – Nothing in this permit shall be construed as relieving Montgomery of the responsibility for complying with any applicable federal or Montana statute, rule, or standard, except as specifically provided in ARM 17.8.740, *et seq*. (ARM 17.8.756).

D. Enforcement – Violations of limitations, conditions and requirements contained herein may constitute grounds for permit revocation, penalties, or other enforcement action as specified in Section 75-2-401, *et seq*., MCA.

E. Appeals – Any person or persons jointly or severally adversely affected by the Department's decision may request, within 15 days after the Department renders its decision, upon affidavit setting forth the grounds therefore, a hearing before the Board of Environmental Review (Board). A hearing shall be held under the provisions of the Montana Administrative Procedures Act. The filing of a request for a hearing does not stay the Department's decision, unless the Board issues a stay upon receipt of a petition and a finding that a stay is appropriate under Section 75-2-211(11)(b), MCA. The issuance of a stay on a permit by the Board postpones the effective date of the Department's decision until conclusion of the hearing and issuance of a final decision by the Board. If a stay is not issued by the Board, the Department's decision on the application is final 16 days after the Department's decision is made.

F. Permit Inspection – As required by ARM 17.8.755, Inspection of Permit, a copy of the air quality permit shall be made available for inspection by the Department at the location of the source.

G. Construction Commencement – Construction must begin within 3 years of permit issuance and proceed with due diligence until the project is complete or the permit shall be revoked (ARM 17.8.762).

H. Permit Fee – Pursuant to Section 75-2-220, MCA, as amended by the 1991 Legislature, failure to pay the annual operation fee by Montgomery may be grounds for revocation of this permit, as required by that section and rules adopted thereunder by the Board.

Attachment 1

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Attachment 2

INSTRUCTIONS FOR COMPLETING EXCESS EMISSION REPORTS (EER)

PART 1 Complete as shown. Report total time during the reporting period in hours. The determination of plant operating time (in hours) includes time during unit start up, shut down, malfunctions, or whenever pollutants of any magnitude are generated, regardless of unit condition or operating load.

Excess emissions include all time periods when emissions, as measured by the CEMS, exceed any applicable emission standard for any applicable time period.

Percent of time in compliance is to be determined as:

$$\left(1 - \left(\text{total hours of excess emissions during reporting period} / \text{total hours of CEMS availability during reporting period}\right)\right) \times 100$$

PART 2 Complete as shown. Report total time the point source operated during the reporting period in hours. The determination of point source operating time includes time during unit start up, shut down, malfunctions, or whenever pollutants (of any magnitude) are generated, regardless of unit condition or operating load.

Percent of time CEMS was available during point source operation is to be determined as:

$$\left(1 - \left(\text{CEMS downtime in hours during the reporting period}^{a} / \text{total hours of point source operation during reporting period}\right)\right) \times 100$$

a - All time required for calibration and to perform preventative maintenance must be included in the CEMS downtime.

PART 3 Complete a separate sheet for each pollutant control device. Be specific when identifying control equipment operating parameters. For example: number of TR units, energizers for electrostatic precipitators (ESP); pressure drop and effluent temperature for baghouses; and bypass flows and pH levels for scrubbers. For the initial EER, include a diagram or schematic for each piece of control equipment.

PART 4 Use Table I as a guideline to report <u>all</u> excess emissions. Complete a separate sheet for each monitor. Sequential numbering of each excess emission is recommended. For each excess emission, indicate: 1) time and duration, 2) nature and cause, and 3) action taken to correct the condition of excess emissions. Do not use computer reason codes for corrective actions or nature and cause; rather, be specific in the explanation. If no excess emissions occur during the quarter, it must be so stated.

PART 5 Use Table II as a guideline to report all CEM system upsets or malfunctions. Complete a separate sheet for each monitor. List the time, duration, nature and extent of problems, as well as the action taken to return the CEM system to proper operation. Do not use reason codes for nature, extent or corrective actions. Include normal calibrations and maintenance as prescribed by the monitor manufacturer. Do not include zero and span checks.

PART 6 Complete a separate sheet for each pollutant control device. Use Table III as a guideline to report operating status of control equipment during the excess emission. Follow the number sequence as recommended for excess emissions reporting. Report operating parameters consistent with Part 3, Subpart e.

PART 7 Complete a separate sheet for each monitor. Use Table IV as a guideline to summarize excess emissions and monitor availability.

PART 8 Have the person in charge of the overall system and reporting certify the validity of the report by signing in Part 8.

EXCESS EMISSIONS REPORT

PART 1

a. Emission Reporting Period _____

b. Report Date _____

c. Person Completing Report _____

d. Plant Name _____

e. Plant Location _____

f. Person Responsible for Review and Integrity of Report _____

g. Mailing Address for 1.f. _____

_____

h. Phone Number of 1.f. _____

i. Total Time in Reporting Period _____

j. Total Time Plant Operated During Quarter _____

k. Permitted Allowable Emission Rates: Opacity _____

SO_2 _____ NO_x _____ TRS _____

l. Percent of Time Out of Compliance: Opacity _____

SO_2 _____ NO_x _____ TRS _____

m. Amount of Product Produced During Reporting Period _____

n. Amount of Fuel Used During Reporting Period _____

PART 2 - Monitor Information: Complete for each monitor.

a. Monitor Type (circle one)

Opacity SO_2 NO_x O_2 CO_2 TRS Flow

b. Manufacturer _____

c. Model No. _____ _____

d. Serial No. _____

e. Automatic Calibration Value: Zero _____ Span _____

f. Date of Last Monitor Performance Test _____

g. Percent of Time Monitor Available:

1) During reporting period _____

2) During plant operation _____

h. Monitor Repairs or Replaced Components Which Affected or Altered Calibration Values _____

i. Conversion Factor (f-Factor, etc.)

j. Location of monitor (e.g. control equipment outlet)

PART 3 - Parameter Monitor of Process and Control Equipment. (Complete one sheet for each pollutant.)

a. Pollutant (circle one):

Opacity SO_2 NO_x TRS

b. Type of Control Equipment _____

c. Control Equipment Operating Parameters (i.e., delta P, scrubber water flow rate, primary and secondary amps, spark rate)

_____

d. Date of Control Equipment Performance Test _____

e. Control Equipment Operating Parameter During Performance Test

_____

_____

_____

_____

PART 4 - Excess Emission (by Pollutant)

Use Table I: Complete table as per instructions. Complete one sheet for each monitor.

PART 5 - Continuous Monitoring System Operation Failures

Use Table II: Complete table as per instructions. Complete one sheet for each monitor.

PART 6 - Control Equipment Operation During Excess Emissions

Use Table III: Complete as per instructions. Complete one sheet for each pollutant control device.

PART 7 - Excess Emissions and CEMS performance Summary Report

Use Table IV: Complete one sheet for each monitor.

PART 8 - Certification for Report Integrity, by person in 1.f.

THIS IS TO CERTIFY THAT, TO THE BEST OF MY KNOWLEDGE, THE INFORMATION PROVIDED IN THE ABOVE REPORT IS COMPLETE AND ACCURATE.

SIGNATURE _____

NAME _____

TITLE _____

DATE _____

TABLE I

EXCESS EMISSIONS

Date	Time From	To	Duration	Magnitude	Explanation/Corrective Action

TABLE II

CONTINUOUS MONITORING SYSTEM OPERATION FAILURES

Date	Time From	To	Duration	Problem/Corrective Action

TABLE III

CONTROL EQUIPMENT OPERATION DURING EXCESS EMISSIONS

Date	Time From	Time To	Duration	Operating Parameters	Corrective Action

TABLE IV

Excess Emission and CEMS Performance Summary Report

Pollutant (circle one): SO_2 NO_x TRS H_2S CO Opacity

Monitor ID

Emission data summary [1]	**CEMS performance summary** [1]
1. Duration of excess emissions in reporting period due to: a. Startup/shutdown b. Control equipment problems c. Process problems d. Other known causes e. Unknown causes 2. Total duration of excess emissions 3. [Total duration of excess emissions / Total time CEM operated X 100 =]	1. CEMS[2] downtime in reporting due to: a. Monitor equipment malfunctions b. Non-monitor equipment malfunctions c. Quality assurance calibration d. Other known causes e. Unknown causes 2. Total CEMS downtime 3. [Total CEMS downtime / Total time source emitted X 100 =]

[1] For opacity, record all times in minutes. For gases, record all times in hours. Fractions are acceptable (e.g., 4.06 hours)

[2] CEMS downtime shall be regarded as any time CEMS is not measuring emissions.

Permit Analysis
Montgomery Great Falls Energy Partners LP
Permit #3154-05

I. Introduction/Process Description

Montgomery Great Falls Energy Partners LP (Montgomery) proposed a 262-megawatt (MW) natural gas-fired electrical power generation facility located in Section 30, Township 21 North, Range 4 East, approximately two miles north of the city of Great Falls, in Cascade County, Montana.

A. Permitted Equipment

The facility's primary equipment will consist of the following:

Simple Cycle (up to two years)

- Two simple cycle 80-MW natural gas turbines to produce electrical power. Each turbine is a General Electric PG7121EA gas turbine. Emissions of oxides of nitrogen (NO_x) and carbon monoxide (CO) will be controlled by dry low NO_x combustors that are integral to the design of the turbines; and
- Emergency Water Pump (diesel-fired).

Combined Cycle

- Two combined cycle natural gas turbine systems to produce electrical power, each system consisting of:
  - 80-MW General Electric PG7121EA gas turbine, and
  - Heat recovery steam generator (HRSG) with a natural gas duct burner with a firing rate of 0.12 million standard cubic feet per hour (MMSCF/hr).
    - Emissions of NO_x will be controlled by dry low NO_x combustors that are integral to the design of the PG7121EA turbines and by selective catalytic reduction (SCR) units installed on each stack.
    - Emissions of CO will be controlled by a catalytic oxidizer.
- 102-MW steam turbine powered by the two HRSG units;
- 5-cell cooling tower; and
- Emergency Water Pump (diesel-fired).

B. Source Description

A gas turbine is an internal combustion engine that operates with rotary rather than reciprocating motion. Within each combustion turbine unit, a mixture of compressed air and natural gas is fired in the combustor to produce compressed hot combustion gases. Expansion of these gases in the turbine rotates the turbine shaft that turns a generator to produce electricity.

In stationary applications, the hot combustion gases are directed through one or more fan-like turbine wheels to generate shaft horsepower. A simple cycle turbine is the most basic operating cycle of a gas turbine, with thermal efficiency ranging from 15-42%. It functions with only three primary sections: a compressor, a combustor, and a turbine.

The compressor draws in ambient air and compresses it to a pressure of up to 30 times ambient pressure. The compressed air is then directed to the combustor section where fuel is introduced, ignited, and burned. The hot combustion gases are then diluted with additional cool air from the compressor section and directed to the turbine section. Energy is recovered in the turbine section in the form of shaft horsepower; typically greater than 50 percent of the horsepower is required to drive the internal compressor section. The balance of the recovered

shaft energy is available to drive the external load unit. The compressor and turbine sections can be a single fan-like wheel assembly, but are usually made up of a series of stages. The compressor and turbine sections may be associated with one or several connecting shafts. In a single shaft gas turbine, all compressor and turbine stages are fixed to a single continuous shaft and operate at the same speed. The single shaft configuration is typically used to drive electric generators.

The addition of an HRSG to the simple cycle turbine unit creates a combined cycle unit. Heat energy in the turbine exhaust gases is recovered by the HRSG to create steam. This steam energy is then converted to mechanical and electrical energy when it passes through a steam turbine generator unit. Additional heat for the creation of steam can be supplied by duct burners, which increase the turbine exhaust gas temperature. HRSG operation is not dependent upon the firing of the duct burners. The thermal efficiency of a combined cycle turbine is between 38-60%.

Montgomery's facility will consist of two combined cycle General Electric Model PG7121EA natural gas turbines and one steam turbine. The gas turbines are equipped with dry low NO_x combustors, which are integral to the design. The nominal power output of these turbines is 80 MW. The facility is permitted to operate in this simple cycle mode for up to 2 years, until the combined cycle infrastructure is installed.

Under the combined cycle system, the facility will install additional equipment. The HRSG units, manufactured by Deltak, will be equipped with an SCR and a CO catalyst to further reduce potential NO_x and CO emissions. The steam turbine has a gross power output of 102 MW. The nominal output power of the combined cycle facility is 262 MW.

The Department of Environmental Quality (Department) placed annual NO_x, CO, and particulate matter less than or equal to 10 microns (PM_{10}) limits in the permit to keep Montgomery below the New Source Review (NSR) and Title V threshold of 100 tons per year (tpy). Montgomery is required to track the NO_x and CO emissions according to a rolling 12-month time period, using data taken from continuous emission monitors. Montgomery is also required to limit the hours of operation for the duct burners, to demonstrate compliance with the PM_{10} limitation.

The Department placed short-term NO_x and CO emission limits on the facility. The worst-case one hour NO_x limit is based on stack test data for start-up at similar GE turbine stations, and represents the highest one-hour during a cold start, before the SCR unit is able to operate. The worst-case one hour CO limit is based on theoretical engineering calculations using climatic conditions for Montana. The Department also placed Best Available Control Technology (BACT) limits during normal operating conditions for NO_x, CO, PM_{10}, SO_2, and VOC.

C. Permit History

On October 12, 2001, NorthWestern was issued Permit **#3154-00** for the construction and operation of a nominal 160-MW power generation facility. The permitted facility consisted of two 80-MW General Electric PG7121EA simple cycle gas turbines. After issuance of the Department's Decision on this permit, the permit was appealed to the Board of Environmental Review. Prior to the hearing date scheduled for the NorthWestern appeal, NorthWestern reached a settlement with the appellants. The appellants agreed to drop their appeal if NorthWestern would commit to taking additional actions to counteract the emissions from this facility. NorthWestern agreed to the conditions, but the conditions were not included as part of Permit #3154-00. Instead, the settlement conditions represent an additional agreement between the appellants and NorthWestern.

On January 23, 2002, NorthWestern was issued Permit #3154-01 for the modification of Permit #3154-00. After issuance of the original permit, NorthWestern discovered that equipment modifications can be incorporated into the two turbines that will result in an equal or lower amount of CO emissions, without the use of a CO catalyst. Based on the information that NorthWestern received regarding the equipment modifications, NorthWestern requested that the permit be modified to remove the requirement to install CO catalysts and that the existing emission limits remain the same. The Department agreed with the change and modified the permit to reflect the change. Permit **#3154-01** replaced Permit #3154-00.

On May 28, 2002, the Department received a request from NorthWestern to alter Permit #3154-01 for the potential to add an HRSG to each of the existing 80-MW natural gas-fired simple cycle combustion turbines. The addition of the HRSGs converts the simple cycle turbines into combined cycle systems. The exhaust heat generated from the simple-cycle turbines will produce steam, which will drive a steam turbine. NorthWestern anticipates an additional 102 MW of power generation from the installation of the two HRSGs and one steam turbine, for a total of 262 MW from the facility. Permit **#3154-02** replaced Permit #3154-01.

Based on comments during the preliminary determination comment period, the Department has included conditions to allow NorthWestern to operate simple cycle turbines while construction is in progress for the addition of the HRSG's and steam turbine. Once the combined cycle turbines are constructed and operating, Section II of this permit will no longer apply.

On September 24, 2004, the Department received a letter from NorthWestern requesting to modify Permit #3154-02 to change the company name from NorthWestern Montana First Megawatts, LLC to Montana Megawatts I. This permitting action included the name change and updated the permit to reflect current permit language and rule references used by the Department. Permit **#3154-03** replaced Permit #3154-02.

The Department received a letter dated August 7, 2005, from NorthWestern, requesting that the Department re-issue Montana Air Quality Permit (MAQP) #3154-03 for MMI.

The Department determined that a full preconstruction review was required since the 3-year commencement of construction timeframe expired on August 10, 2005. The Department requested additional information in a letter dated September 22, 2005. On December 26, 2005, the Department received a revised permit application that included an updated BACT analysis. After further correspondence, the application was deemed complete on July 13, 2006. Permit **#3154-04** replaced Permit #3154-03.

This permitting action allowed MMI to operate two simple cycle gas turbines, each rated at 80-MW. Within 2 years, MMI is required to add additional equipment to convert the two simple cycle gas turbines into combined cycle gas turbines, for a total power production 262-MW.

D. Current Permit Action

The Department received a letter on March 28, 2007 regarding the transfer of ownership of Montana Megawatts I, LLC (MMI) to Montgomery. The current permit action is an administrative amendment to reflect the change in ownership. **Permit #3154-05** will replace Permit #3154-04.

E. Additional Information

Additional information, such as applicable rules and regulations, BACT/Reasonably Available Control Technology (RACT) determinations, air quality impacts, and environmental assessments, is included in the analysis associated with each change to the permit.

II. Applicable Rules and Regulations

The following are partial explanations of some applicable rules and regulations that apply to the facility. The complete rules are stated in the Administrative Rules of Montana (ARM) and are available, upon request, from the Department. Upon request, the Department will provide references for location of complete copies of all applicable rules and regulations or copies where appropriate.

A. ARM 17.8, Subchapter 1 – General Provisions, including but not limited to:

1. ARM 17.8.101 Definitions. This rule includes a list of applicable definitions used in this chapter, unless indicated otherwise in a specific subchapter.

2. ARM 17.8.105 Testing Requirements. Any person or persons responsible for the emission of any air contaminant into the outdoor atmosphere shall, upon written request of the Department, provide the facilities and necessary equipment (including instruments and sensing devices) and shall conduct tests, emission or ambient, for such periods of time as may be necessary using methods approved by the Department. Based on emissions from the turbines, the Department determined that testing for NO_x, CO, and PM_{10} is necessary.

3. ARM 17.8.106 Source Testing Protocol. The requirements of this rule apply to any emission source testing conducted by the Department, any source or other entity as required by any rule in this chapter, or any permit or order issued pursuant to this chapter, or the provisions of the Clean Air Act of Montana, 75-2-101, *et seq*., Montana Code Annotated (MCA).

   Montgomery shall comply with the requirements contained in the Montana Source Test Protocol and Procedures Manual, including, but not limited to, using the proper test methods and supplying the required reports. A copy of the Montana Source Test Protocol and Procedures Manual is available from the Department upon request.

4. ARM 17.8.110 Malfunctions. (2) The Department must be notified promptly by telephone whenever a malfunction occurs that can be expected to create emissions in excess of any applicable emission limitation or to continue for a period greater than 4 hours.

5. ARM 17.8.111 Circumvention. (1) No person shall cause or permit the installation or use of any device or any means that, without resulting in reduction of the total amount of air contaminant emitted, conceals or dilutes an emission of air contaminant that would otherwise violate an air pollution control regulation. (2) No equipment that may produce emissions shall be operated or maintained in such a manner as to create a public nuisance.

B. ARM 17.8, Subchapter 2 – Ambient Air Quality, including, but not limited to the following:

1. ARM 17.8.204 Ambient Air Monitoring
2. ARM 17.8.210 Ambient Air Quality Standards for Sulfur Dioxide
3. ARM 17.8.211 Ambient Air Quality Standards for Nitrogen Dioxide
4. ARM 17.8.212 Ambient Air Quality Standards for Carbon Monoxide
5. ARM 17.8.213 Ambient Air Quality Standard for Ozone
6. ARM 17.8.214 Ambient Air Quality Standard for Hydrogen Sulfide
7. ARM 17.8.220 Ambient Air Quality Standard for Settled Particulate Matter
8. ARM 17.8.221 Ambient Air Quality Standard for Visibility
9. ARM 17.8.222 Ambient Air Quality Standard for Lead
10. ARM 17.8.223 Ambient Air Quality Standard for PM_{10}

Montgomery must maintain compliance with the applicable ambient air quality standards.

C. ARM 17.8, Subchapter 3 – Emission Standards, including, but not limited to:

1. ARM 17.8.304 Visible Air Contaminants. This rule requires that no person may cause or authorize emissions to be discharged into an outdoor atmosphere from any source installed after November 23, 1968, that exhibit an opacity of 20% or greater averaged over 6 consecutive minutes.

2. ARM 17.8.308 Particulate Matter, Airborne. (1) This section requires an opacity limitation of 20% for all fugitive emission sources and that reasonable precautions be taken to control emissions of airborne particulate. (2) Under this section, Montgomery shall not cause or authorize the use of any street, road, or parking lot without taking reasonable precautions to control emissions of airborne particulate matter.

3. ARM 17.8.340 Standard of Performance for New Stationary Sources. This section incorporates, by reference, 40 CFR Part 60, Standards of Performance for New Stationary Sources (NSPS). Montgomery's combined cycle turbines are considered NSPS affected facilities under 40 CFR Part 60 and are subject to the requirements of the following subparts:

   - 40 CFR Part 60, Subpart Db Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units. This subpart does not apply to either of the duct burners because they are subject to Subpart KKKK. Otherwise, the duct burners would be subject to Subpart Db because they are over 100 million British thermal units per hour (MMBTU/hr) and constructed since June 19, 1984.

   - 40 CFR Part 60, Subpart GG Standards of Performance for Stationary Gas Turbines. This subpart does not apply to either of the combined cycle turbines because the turbines are subject to Subpart KKKK. Otherwise, the turbines would be subject to Subpart GG because they were constructed after October 3, 1977, and because the turbines will have a heat input capacity of greater than 10.7 gigajoules per hour.

   - 40 CFR Part 60, Subpart KKKK Standards of Performance for Stationary Combustion Turbines. This subpart applies to both the combined cycle turbine units (including duct burners) because they are stationary combustion turbines with a heat input at peak load equal to or greater than 10 MMBTU/hr that commenced construction, modification, or reconstruction after February 18, 2005.

4. ARM 17.8.341 Emission Standards for Hazardous Air Pollutants. This section incorporates, by reference, 40 CFR Part 61, National Emission Standards for Hazardous Air Pollutants (NESHAP). Since the emission of Hazardous Air Pollutants (HAP) from the Montgomery power generation facility is less than 10 tons per year for any individual HAP and less than 25 tons per year for all HAP combined, the Montgomery facility is not subject to the provisions of 40 CFR Part 61.

5. ARM 17.8.342 Emission Standards for Hazardous Air Pollutants for Source Categories. This section incorporates, by reference, 40 CFR Part 63, NESHAP for Source Categories. When the emission of HAP from a facility is less than 10 tons per year for any individual HAP and less than 25 tons per year for all HAP combined, the facility is not subject to the provisions of 40 CFR Part 63. Therefore, since the emission of HAP from the Montgomery power generation facility is less than 10 tons per year for any individual HAP and less than 25 tons per year for all HAP combined, the facility will not be subject to any of these standards, including:

- 40 CFR Part 63, Subpart Q Standards of Performance for Industrial Process Cooling Towers. This subpart applies to all new and existing Industrial Process Cooling Towers (IPCT) at major sources that are operated with chromium-based water treatment chemicals on or after September 8, 1994. The regulation states that no owner or operator shall use chromium-based water treatment chemicals in an IPCT. Montgomery does not intend to use chromium-based water treatment chemicals in the cooling tower water. Furthermore, Montgomery is not a major source of HAPs, and as such is not subject to this regulation.

D. ARM 17.8, Subchapter 5 – Air Quality Permit Application, Operation, and Open Burning Fees, including, but not limited to:

1. ARM 17.8.504 Air Quality Permit Application Fees. This rule requires that an applicant submit an air quality permit application fee concurrent with the submittal of an air quality permit application. A permit application is incomplete until the proper application fee is paid to the Department. Montgomery was not required to submit a permit application fee for the current permit action.

2. ARM 17.8.505 Air Quality Operation Fees. An annual air quality operation fee must, as a condition of continued operation, be submitted to the Department by each source of air contaminants holding an air quality permit (excluding an open burning permit) issued by the Department. The air quality operation fee is based on the actual or estimated actual amount of air pollutants emitted during the previous calendar year.

   An air quality operation fee is separate and distinct from an air quality permit application fee. The annual assessment and collection of the air quality operation fee, described above, shall take place on a calendar-year basis. The Department may insert into any final permit issued after the effective date of these rules, such conditions as may be necessary to require the payment of an air quality operation fee on a calendar-year basis, including provisions that prorate the required fee amount.

E. ARM 17.8, Subchapter 7 – Permit, Construction, and Operation of Air Contaminant Sources, including, but not limited to:

1. ARM 17.8.740 Definitions. This rule is a list of applicable definitions used in this chapter, unless indicated otherwise in a specific subchapter.

2. ARM 17.8.743 Montana Air Quality Permits--When Required. This rule requires a person to obtain an air quality permit or permit alteration to construct, alter, or use any air contaminant sources that have the Potential to Emit (PTE) greater than 25 tons per year of any pollutant. Montgomery has a PTE greater than 25 tons per year of particulate matter (PM), PM_{10}, NO_x, and CO; therefore, an air quality permit is required.

3. ARM 17.8.744 Montana Air Quality Permits--General Exclusions. This rule identifies the activities that are not subject to the Montana Air Quality Permit program.

4. ARM 17.8.745 Montana Air Quality Permits--Exclusion for De Minimis Changes. This rule identifies the de minimis changes at permitted facilities that do not require a permit under the Montana Air Quality Permit Program.

5. ARM 17.8.748 New or Modified Emitting Units--Permit Application Requirements. (1) This rule requires that a permit application be submitted prior to installation, alteration, or use of a source. Montgomery was not required to submit a permit application for the current permit action because it is considered an administrative action. (7) This rule

requires that the applicant notify the public by means of legal publication in a newspaper of general circulation in the area affected by the application for a permit. Montgomery was not required to submit a public notice for the current permit action because it is considered an administrative action.

6. ARM 17.8.749 Conditions for Issuance or Denial of Permit. This rule requires that the permits issued by the Department must authorize the construction and operation of the facility or emitting unit subject to the conditions in the permit and the requirements of this subchapter. This rule also requires that the permit must contain any conditions necessary to assure compliance with the Federal Clean Air Act (FCAA), the Clean Air Act of Montana, and rules adopted under those acts.

7. ARM 17.8.752 Emission Control Requirements. This rule requires a source to install the maximum air pollution control capability that is technically practicable and economically feasible, except that BACT shall be utilized. The BACT analysis is discussed in Section III of this permit analysis.

8. ARM 17.8.755 Inspection of Permit. This rule requires that air quality permits shall be made available for inspection by the Department at the location of the source.

9. ARM 17.8.756 Compliance with Other Requirements. This rule states that nothing in the permit shall be construed as relieving Montgomery of the responsibility for complying with any applicable federal or Montana statute, rule, or standard, except as specifically provided in ARM 17.8.740, *et seq*.

10. ARM 17.8.759 Review of Permit Applications. This rule describes the Department's responsibilities for processing permit applications and making permit decisions on those permit applications that do not require the preparation of an environmental impact statement.

11. ARM 17.8.762 Duration of Permit. An air quality permit shall be valid until revoked or modified, as provided in this subchapter, except that a permit issued prior to construction of a new or altered source may contain a condition providing that the permit will expire unless construction is commenced within the time specified in the permit, which in no event may be less than 1 year after the permit is issued.

12. ARM 17.8.763 Revocation of Permit. An air quality permit may be revoked upon written request of the permittee, or for violations of any requirement of the Clean Air Act of Montana, rules adopted under the Clean Air Act of Montana, the FCAA, rules adopted under the FCAA, or any applicable requirement contained in the Montana State Implementation Plan (SIP).

13. ARM 17.8.764 Administrative Amendment to Permit. An air quality permit may be amended for changes in any applicable rules and standards adopted by the Board of Environmental Review (Board) or changed conditions of operation at a source or stack that do not result in an increase of emissions as a result of those changed conditions. The owner or operator of a facility may not increase the facility's emissions beyond permit limits unless the increase meets the criteria in ARM 17.8.745 for a de minimis change not requiring a permit, or unless the owner or operator applies for and receives another permit in accordance with ARM 17.8.748, ARM 17.8.749, ARM 17.8.752, ARM 17.8.755, and ARM 17.8.756, and with all applicable requirements in ARM Title 17, Chapter 8, Subchapters 8, 9, and 10.

14. ARM 17.8.765 Transfer of Permit. This rule states that an air quality permit may be transferred from one person to another if written notice of Intent to Transfer, including the names of the transferor and the transferee, is sent to the Department.

F. ARM 17.8, Subchapter 8 – Prevention of Significant Deterioration of Air Quality, including, but not limited to:

1. ARM 17.8.801 Definitions. This rule is a list of applicable definitions used in this subchapter.

2. ARM 17.8.818 Review of Major Stationary Sources and Major Modifications--Source Applicability and Exemptions. The requirements contained in ARM 17.8.819 through ARM 17.8.827 shall apply to any major stationary source and any major modification, with respect to each pollutant subject to regulation under the FCAA that it would emit, except as this subchapter would otherwise allow.

The facility is a "listed facility" and the Prevention of Significant Deterioration (PSD) threshold is 100 tons per year for a major stationary source. Due to the proposed limitations, the facility does not have the potential to emit more than 100 tons per year of any criteria pollutant. Therefore, the Montgomery facility is not deemed a major stationary source and is not subject to review under the PSD program. Based on this proposal, the Department added limits to Permit #3154-05 that keep the potential NO_x, CO, PM and PM_{10} emissions to less than 100 tons per rolling 12-month time period.

G. ARM 17.8, Subchapter 12 – Operating Permit Program Applicability, including, but not limited to:

1. ARM 17.8.1201 Definitions. (23) Major Source under Section 7412 of the FCAA is defined as any source having:

a. PTE > 100 tons per year of any pollutant;

b. PTE > 10 tons per year of any one HAP, PTE > 25 tons per year of a combination of all HAPs, or lesser quantity as the Department may establish by rule; or

c. PTE > 70 tons per year of PM_{10} in a serious PM_{10} nonattainment area.

2. ARM 17.8.1204 Air Quality Operating Permit Program. (1) Title V of the FCAA amendments of 1990 requires that all sources, as defined in ARM 17.8.1204(1), obtain a Title V Operating Permit. In reviewing and issuing Air Quality Permit #3154-05 for Montgomery, the following conclusions were made:

a. The facility's PTE, after control, is less than 100 tons per year for any pollutant.

b. The facility's PTE is less than 10 tons per year for any one HAP and less than 25 tons per year for all HAPs.

c. This source is not located in a serious PM_{10} nonattainment area.

d. This facility is subject to a current NSPS standard (40 CFR 60, Subpart KKKK).

e. This facility is not subject to a current NESHAP standard.

f. This source is a Title IV affected source.

g. This source is not an EPA designated Title V source.

h. As allowed by ARM 17.8.1204(3), the Department may exempt a source from the requirement to obtain an air quality operating permit by establishing federally enforceable limitations which limit that source's PTE.

i. In applying for an exemption under this section, the owner or operator of the source shall certify to the Department that the source's PTE does not require the source to obtain an air quality operating permit.

ii. Any source that obtains a federally enforceable limit on PTE shall annually certify that its actual emissions are less than those that would require the source to obtain an air quality operating permit.

Montgomery has taken federally enforceable permit limits to keep potential emissions below major source permitting thresholds. Therefore, the facility is not a major source and, thus a Title V operating permit is not required.

The Department determined that the annual reporting requirements contained in the permit are sufficient to satisfy this requirement. However, if minor sources subject to NSPS are required to obtain a Title V Operating Permit, Montgomery will be required to obtain a Title V Operating Permit.

3. ARM 17.8.1207 Certification of Truth, Accuracy, and Completeness. Montgomery shall annually certify that its actual emissions are less than those that would require the source to obtain an air quality operating permit as required by ARM 17.8.1204 (3)(b). The annual certification shall comply with requirements of ARM 17.8.1207. The annual certification shall be submitted along with the annual emission inventory information.

III. BACT Determination

A BACT determination is required for each new or altered source. Montgomery shall install on the new or altered source the maximum air pollution control capability which is technically practicable and economically feasible, except that BACT shall be utilized. A BACT analysis was not required for the current permit action because it is considered an administrative action.

IV. Emission Inventory

SIMPLE CYCLE

			Ton/Year		
Source	PM/PM_{10}	NO_x	CO	VOC	SO_x
GE 7EA 80-MW Gas Turbine #1	12.50	49.17	43.45	10.09	1.51
GE 7EA 80-MW Gas Turbine #2	12.50	49.17	43.45	10.09	1.51
Diesel Fire Pump (265-brake horsepower (BHP))	0.01	0.98	0.04	0.03	0.14
Totals	25.01	99.31	86.94	20.22	3.16

*Turbines limited to 5000 hrs/yr combined, for up to 2-years
**Diesel Fire pump limited to 500 hr/yr

COMBINED CYCLE

	Ton/Year				
Source	PM/PM_{10}	NO_x	CO	VOC	SO_x
GE 7EA 80-MW Gas Turbine #1 w/duct burner	47.46	39.10	47.62	10.92	5.69
GE 7EA 80-MW Gas Turbine #2 w/duct burner	47.46	39.10	47.62	10.92	5.69
Diesel Fire Pump (265-brake horsepower (BHP))	0.01	0.98	0.04	0.03	0.14
Cooling Tower	4.20	--	--	--	--
Totals	99.13	79.18	95.28	21.87	11.52

(SOURCES #01 & #02)

Simple Cycle GE 7EA 80 MW Gas Turbine (2 Turbines)

Size = 80 MW

Hours of Operation = 5,000 hr/yr combined turbine

Hours of Typical Operation = 2,240 hr/yr each turbine

Hours of Startup Operation = 260 hr/yr each turbine

NO_x Emissions

Typical Operation

Emission Factor: 29.39 lb/hr {Manufacturer's Guarantee of 9 ppm NO_x @ 15% O_2}

Calculations: 29.39 lb/hr * 2240 hr/yr * 0.0005 ton/lb = 32.92 ton/yr

Startup Operation

Emission Factor: 125 lb/hr {Manufacturer's Stack Test Info}

Calculations: 125 lb/hr * 260 hr/yr * 0.0005 ton/lb = 16.25 ton/yr

TOTAL NOx:

32.92 ton/yr typical operations + 16.25 ton/yr startup = 49.17 ton/yr

CO Emissions

Typical Operation

Emission Factor: 17.9 lb/hr {Manufacturer's Guarantee of 9 ppm CO @ 15% O_2}

Calculations: 17.9 lb/hr * 2240 hr/yr * 0.0005 ton/lb = 20.05 ton/yr

Startup Operation

Emission Factor: 180 lb/hr {Manufacturer's Stack Test Info}

Calculations: 180 lb/hr * 260 hr/yr * 0.0005 ton/lb = 23.40 ton/yr

TOTAL CO:

20.05 ton/yr typical operations + 23.40 ton/yr startup = 43.45 ton/yr

VOC Emissions

Typical Operation

Emission Factor: 7.95 lb/hr {Manufacturer's Info}

Calculations: 7.95 lb/hr * 2300 hr/yr * 0.0005 ton/lb = 9.14 ton/yr

Worst-Case Operation

Emission Factor: 9.45 lb/hr {Manufacturer's Info}

Calculations: 9.45 lb/hr * 200 hr/yr * 0.0005 ton/lb = 0.95 ton/yr

TOTAL VOC:

9.14 ton/yr typical operations + 0.95 ton/yr worst-case = 10.09 ton/yr

SO_2 Emissions

Emission Factor: 1.314 lb SO_2/MMSCF {Montgomery Info}

Typical Operation

Firing Rate: 0.904 MMSCF/hr average

Calculations: 1.314 lb SO2/MMSCF * 0.904 MMSCF* 2300 hr/yr * 0.0005 ton/lb = 1.366 ton/yr

Worst-Case Operation

Firing Rate: 1.074 MMSCF/hr average

Calculations: 1.314 lb SO2/MMSCF * 1.074 MMSCF* 200 hr/yr * 0.0005 ton/lb = 0.14 ton/yr

TOTAL SO_2:

1.366 ton/yr typical operations + 0.14 ton/yr worst-case = 1.51 ton/yr

PM/PM_{10} Emissions

Emission Factor: 10.0 lb/hr {Manufacturer's Information}

Calculations: 10.0 lb/hr * 2500 hr/yr * 0.0005 ton/lb = 12.50 ton/yr

(SOURCES #01 & #02)

Combined Cycle GE 7EA 80 MW Gas Turbine plus HRSG unit duct burner (2 systems)

Size = 131 MW (80 MW turbine + 50% 102 MW steam generator)

Hours of Operation =

Turbines 8,760 hr/yr each

Duct Burners 12,000 hr/yr combined (show 6,000 hrs/yr per DB for calculations)

NO_x Emissions (DLN and SCR):

Typical Operation with Duct Burner

Emission Factor: 9.28 lb/hr {Manufacturer's Guarantee of 2.5 ppm NOx @ 15% O_2}

Calculations: 9.28 lb/hr * 6,000 hr/yr * 0.0005 ton/lb = 27.84 ton/yr

Turbine w/o Duct Burner

Emission Factor: 8.16 lb/hr {Manufacturer's Guarantee of 2.5 ppm NOx @ 15% O_2}

Calculations: 8.16 lb/hr * 2,760 hr/yr * 0.0005 ton/lb = 11.26 ton/yr

TOTAL NOx:

27.84 ton/yr typical operations + 11.26 ton/yr turbine only = 39.10 ton/yr

CO Emissions (DLN and SCR):

Typical Operation with Duct Burner

Emission Factor: 11.30 lb/hr {Manufacturer's Guarantee of 2.5 ppm CO @ 15% O_2}

Calculations: 11.30 lb/hr * 6,000 hr/yr * 0.0005 ton/lb = 33.90 ton/yr

Turbine w/o Duct Burner

Emission Factor: 9.94 lb/hr {Manufacturer's Guarantee of 2.5 ppm CO @ 15% O_2}

Calculations: 9.94 lb/hr * 2,760 hr/yr * 0.0005 ton/lb = 13.72 ton/yr

TOTAL CO:

33.90 ton/yr typical operations + 13.72 ton/yr turbine only = 47.62 ton/yr

VOC Emissions (DLN and SCR):

Typical Operation with Duct Burner

Emission Factor: 2.59 lb/hr {Manufacturer's Information}

Calculations: 2.59 lb/hr * 6,000 hr/yr * 0.0005 ton/lb = 7.77 ton/yr

Turbine w/o Duct Burner

Emission Factor: 2.28 lb/hr {Manufacturer's Information}

Calculations: 2.28 lb/hr * 2,760 hr/yr * 0.0005 ton/lb = 3.15 ton/yr

TOTAL VOC:

7.77 ton/yr typical operations + 3.15 ton/yr turbine only = 10.92 ton/yr

SO_2 Emissions:

Typical Operation with Duct Burner

Emission Factor: 1.35 lb/hr {Manufacturer's Information}

Calculations: 1.35 lb/hr * 6,000 hr/yr * 0.0005 ton/lb = 4.05 ton/yr

Turbine w/o Duct Burner

Emission Factor: 1.19 lb/hr {Manufacturer's Information}

Calculations: 1.19 lb/hr * 2,760 hr/yr * 0.0005 ton/lb = 1.64 ton/yr

TOTAL SO_2:

4.05 ton/yr typical operations + 1.64 ton/yr turbine only = 5.69 ton/yr

PM/PM10 Emissions:

Typical Operation with Duct Burner

Emission Factor: 11.22 lb/hr {Manufacturer's Information}

Calculations: 11.22 lb/hr * 6,000 hr/yr * 0.0005 ton/lb = 33.66 ton/yr

Turbine w/o Duct Burner

Emission Factor: 10.0 lb/hr {Manufacturer's Information}

Calculations: 10.0 lb/hr * 2,760 hr/yr * 0.0005 ton/lb = 13.8 ton/yr

TOTAL PM/PM10:

33.66 ton/yr typical operations + 13.8 ton/yr turbine only = 47.46 ton/yr

(SOURCE #03)
John Deere Diesel-fired Emergency Water Pump

Size = 265 hp
Hours of Operation 500 hr/yr

PM/PM_{10} Emissions
Emission Factor: 0.000155 lb/hp-hr {Vendor Information}
Calculations: 265 hp * 0.000155 lb/hp-hr * 500 hr/yr * 0.0005 ton/lb = 0.01 ton/yr

NO_x Emissions
Emission Factor: 0.0148 lb/hp-hr {Vendor Information}
Calculations: 265 hp * 0.0148 lb/hp-hr * 500 hr/yr 0.0005 ton/lb = 0.98 ton/yr

CO Emissions
Emission Factor: 0.000638 lb/hp-hr {Vendor Information}
Calculations: 265 hp * 0.000638 lb/hp-hr * 500 hr/yr * 0.0005 ton/lb = 0.04 ton/yr

VOC Emissions
Emission Factor: 0.000506 lb/hp-hr {Vendor Information}
Calculations 265 hp * 0.000506 lb/hp-hr * 500 hr/yr * 0.0005 ton/lb = 0.03 ton/yr

SO_x Emissions
Emission Factor: 0.00205 lb/hp-hr {AP-42 Table 3.3-1, 10/96}
Calculations 265 hp * 0.00205 lb/hp-hr * 500 hr/yr * 0.0005 ton/lb = 0.14 ton/yr

(SOURCE #04)
Cooling Towers

Recirculation Rate = 64,450 gal/min
TDS concentration = 1488 ppm

PM/PM_{10} Emissions
Emission Factor: 0.002% drift rate {Manufacturer's Guarantee}
Calculations: 64,450 gal/min x 60 min/hr x 8.34 lb H_2O/gal x 0.002% drift = 645 lb H_2O/hr
645 lb H_2O drift/hr x 1488 lb PM/MM lbs H_2O = 0.96 lb/hr
0.96 lb/hr x 8760 hr/yr x 1 ton/2000 lb = 4.20 ton/yr

V. Existing Air Quality

The Montgomery facility is located east of Highway 87 approximately 2 miles north of Great Falls in Section 30, Township 21 North, Range 4 East, in Cascade County, Montana. The facility sits on a relatively flat plain at an elevation of 3,520 feet with mountain ranges approximately 30 miles or more to the east, south, and west of the facility and lower hills (buttes) to the north and northwest. The closest Class I area is the Gates of the Mountains wilderness area located approximately 75 kilometers (km) southeast of the site.

The air quality classification for the Montgomery project area is "Unclassifiable or Better than National Standards" (40 CFR 81.327) for the National Ambient Air Quality Standards (NAAQS) for all criteria pollutants. A narrow area of Great Falls along 10th Avenue South (bounded by 9th Avenue South on the north, 11th Avenue South on the south, 54th Street South on the east and 2nd Street South on the west) was previously classified as a non-attainment area for CO, but has been redesignated attainment.

VI. Ambient Air Impact Analysis

This permit contains operational conditions and limitations that would protect air quality for this site and the surrounding area. Modeling was conducted for a previous permitting action and is on file with the Department. The modeling results for Montgomery's natural gas-fired power plant project demonstrate compliance with the NAAQS and Montana Ambient Air Quality Standards (MAAQS) and PSD increments. Therefore, the Department believes it will not cause or contribute to a violation of any ambient air quality standard.

VII. Taking or Damaging Implication Analysis

As required by 2-10-105, MCA, the Department conducted a private property taking and damaging assessment and determined there are no taking or damaging implications.

VIII. Environmental Assessment

An environmental assessment was not required for the current permit action because it is considered an administrative action.

Analysis Prepared By: Julie Merkel
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